

CLAIMS

1. Process for treatment of a metathesis catalyst for olefins, characterized in that it consists in sending the particles of said catalyst through at least one vibratory helicoidal conveyor that comprises at least one vibrating coil, in subjecting them over at least a portion of their path to a temperature profile, and in bringing them into contact with at least one fluid over at least a portion of their path.
2. Process of treatment according to claim 1, such that the catalyst particles rise in the vibratory helicoidal conveyor.
3. Process of treatment according to claim 1, such that the catalyst particles descend into the vibratory helicoidal conveyor.
4. Process of treatment according to one of the preceding claims, such that it comprises at least one combustion stage that is provided in an oxidizing medium that is produced in the vibratory helicoidal conveyor in at least one combustion zone.
5. Process according to claim 4, such that said catalyst is subjected to a gas that contains between 0.1 and 5% molecular oxygen at a temperature of between 350°C and 800°C.
6. Process according to claim 5, such that said catalyst is dried before being used in a reaction zone.
7. Process according to one of claims 4 to 6, such that it comprises at least one calcination stage that is produced in the vibratory helicoidal conveyor in at least one calcination zone.
8. Process according to claim 7, such that said catalyst is subjected to a gas that contains 5 to 40% molecular oxygen at a

temperature of between 400°C and 800°C, whereby this temperature is also greater than the temperature of the combustion zone that is provided.

9. Process according to claim 7 or 8, wherein at least one combustion zone and at least one calcination zone are separate and are arranged one on top of the other in the vibratory helicoidal conveyor in the direction of flow of the catalyst.

10. Process according to claim 7 or 8, such that at least one combustion zone and at least one calcination zone are combined.

11. Process according to one of the preceding claims, such that it also comprises at least one hydrocarbon stripping stage that is produced before the combustion stage.

12. Metathesis process for olefins in which the catalyst circulates from top to bottom in a reaction zone in which is produced the metathesis, is drawn off at the bottom of the reaction zone, is sent into the vibratory helicoidal conveyor in which it is treated according to the process of one of the preceding claims, then is drawn off from said helicoidal conveyor to be sent to the top of the reaction zone.

13. Installation that comprises:

- at least one vibratory helicoidal conveyor (12) that comprises at least one coil, at least one hose (3) for introducing the catalyst and at least one catalyst discharge hose (4), whereby this helicoidal conveyor is placed on a vibrating table (1),

- at least one combustion zone (14) in which is placed at least one coil of the vibratory helicoidal conveyor that comprises at least one hose (8) for introducing gases and at least one gas discharge hose (9),
- at least one calcination zone (15) in which is placed at least one coil of the vibratory helicoidal conveyor that comprises at least one hose (10) for introducing gases and at least one gas discharge hose (9),
- said installation, however, does not comprise a zone in which a gas that contains a halogenated compound is introduced.